

Claims

*Sub C1*  
5 1) Method for increasing the wear-resistance of a work piece, with the work piece (1) being connected to a core material (2) that cannot be reshaped and which is of a greater hardness than the work-piece material, characterised in that the core material (2) is connected to the work piece (1) in a form-fitting manner by means of cold-extrusion or hot-extrusion of the work-piece material.

10 2. Method according to claim 1, characterised in that the work-piece material is steel or non-ferrous metal.

*Sub C2*  
15 3. Method according to claim 1 or 2, characterised in that the core material (2) is a hard metal or a hardened metal.

*Sub C2*  
20 4. Method according to claim 1 or 2, characterised in that the core material (2) is a ceramic sintered material.

*Sub B*  
25 5. Method according to <sup>claim 1</sup> one of claims 1 to 4, characterised in that the core material (2) has additional shaped elements such as, for example, rounded-off notches and/or areas or hollow spaces and/or undercuts.

6. Method according to claim 5, characterised in that the additional shaped elements are constituted by a knurling (3) that is provided on the outside.

*A*  
30 7. Method according to <sup>claim 1</sup> one of claims 1 to 5, characterised in that the core material (2) tapers towards the outside of the work piece.

*A*  
35 8. Method according to <sup>claim 1</sup> one of claims 1 to 7, characterised in that a bore (5) in which a displaceable punch (6) connects the work piece (1) to the core material (2) is arranged in an extrusion sleeve liner (4).

9. Method according to claim 8, characterised in

that a displaceable ejector (7) is provided as an abutment for the work piece (1) or the core material (2) in the bore.

5 10. Method according to claim 8, characterised in that a constriction (8) is provided in the bore (5) as an abutment for the work piece (1) or the core material (2).

A 11. Method according to ~~one of claims 8 to 10~~, characterised in that the punch (6) is a hollow punch.

10 12. Method according to ~~one of claims 8 to 11~~, characterised in that the punch (6), at its end that faces the work piece (1) or core material (2), has a clearance (9) from the bore (5) in the sleeve liner (4).

A15 13. Method according to ~~one of claims 8 to 12~~, characterised in that a further displaceable punch, to which force can be applied, is arranged in the punch (6).

A 20 14. Method according to ~~one of claims 1 to 13~~, characterised in that this method is used on work pieces of valve systems, in particular valve drives of internal combustion engines.

*Afd  
B27*